

**FAQ's**  
**Voting Machine Replacement - Frequently Asked Questions**

**We like the old [Shouptronic-1242] voting machines. Why does the Electoral Board want to replace them with touch screen machines?**

Although the existing machines have been extremely reliable, they have become increasingly expensive to maintain, store and transport. Two-thirds of the existing machines use impact-printers which are no longer manufactured and are difficult to repair. The DOS-based software is seriously out-of-date and is no longer supported by the vendor. Support equipment, such as the ballot plotter, is also outdated and cannot be replaced, because new equipment does not have drivers that are compatible with the old DOS software.

In addition, HR 3295, the federal Help America Vote Act (HAVA), mandates that voting systems must produce a verifiable [paper] audit trail, that voting systems must be able to accommodate minority language requirements and that each polling place must be equipped with at least one machine that provides accessibility for the blind and visually impaired voters. The Shouptronic-1242 machines do not meet these federal requirements.

**Since the County is having budget problems, why didn't we put off the purchase of new machines for a year or two?**

The old machines have been living on "borrowed time" for too many years already. It is a waste of money to keep repairing the old, out-of date equipment when better, less expensive technology is now available. Each year we have to repair or replace more and more batteries, printers, CPU boards, shocks and other expensive parts. In recent years, we have had to repair a number of machines on Election Day and have had several machines go down during the election. Many of the lithium batteries, which are soldered to the CPU boards, are also due for replacement this year. Over \$6,000 in printer repairs will be needed and a \$7,500 purchase of lead-acid batteries will be required if the old system is to be used for the 2003 elections.

The existing software is DOS based and was not designed for the Windows operating system that most computers use today. There is no vendor that currently supports this software, so we have no ability to update or upgrade the existing software. Our most recent software upgrade was implemented in 1992. The Virginia State Board of Elections decertified this software in 1993.

In addition, population growth in the county and the creation of new precincts requires more machines. If we do not begin the conversion to a new system, an additional 20 of the old machines will need to be purchased or leased to meet Virginia Code for the 2003 election, and as many as 50 more machines may be needed for the 2004 presidential election.

**If the machines are out-dated, why didn't we replace them sooner?**

We would have liked to – but... Voting equipment goes through a lengthy certification process at both the federal and state levels. Prior to 2001, the Virginia State Board of Elections hadn't certified any new voting systems for more than five years. In addition, after the 2000 elections,

many of the vendors went back to the drawing board to redesign their equipment, which then had to be recertified. The good news, however, is that there is now more competition and better machines on the market.

### **Can the old machines be upgraded to meet the HAVA mandates?**

Yes – but the upgrade would cost more than the new machines. In order to upgrade the existing machines new software would have to be purchased and installed, all impact printers would have to be replaced by thermal printers, the CPU's (motherboards), power supply boards and printer wiring harnesses would have to be replaced and a specially designed add-on device would have to be purchased and maintained to provide access for blind voters. And – even after the upgrade, we would still have old machine cases with new insides.

### **In order to save money, can we purchase one machine per precinct for the blind/visually impaired voters and phase-in the rest of the machines over 3 or 4 years?**

Yes – but it would create a lot of confusion and extra expense. Precinct Election Officers, Rovers, technicians and staff would all have to be trained on two totally different systems. Two different sets of instruction materials, sample ballots, supplies and spare parts would have to be maintained to support each system. Since the two systems will not be compatible, results from the different machines would have to be added together by hand when the polls closed, introducing possible errors and delaying returns.

Voters would most certainly be confused by mixed systems, because items such as sample ballots, campaign literature, publicity and public service announcements (PSA's) would have to be prepared to cover both types of equipment. There may be delays at polling places if voters have a choice of two systems and many voters insist on using the old (or new) machines and lines develop at the old (or new) machines.

### **What advantages do the touch screen machines have over the old machines?**

Many. The touch screen machines provide greater access for voters with disabilities. The small size and light weight (about 9 pounds) permit the machine to be carried outside for curbside voters, thus eliminating the need for counting separate paper ballots. The touch screen unit is small enough to be placed on the lap of a voter who uses a wheelchair or a voter with limited arm movement. It has a “zoom mode” to enlarge the ballot type for voters with visual impairments and an audio ballot to enable blind or illiterate voters to cast a secret ballot without assistance. The touch screen unit can also be programmed for multiple languages and/or multiple ballots.

The touch screen units are equipped with modems which can electronically transfer the election results from each precinct onto the web site much faster and with more accuracy than the current system which requires phone calls from the precincts to data entry personnel in the Government Center. The touch screen units also comply with all the federal mandates outlined in the HAVA legislation.

The small size of the machines will give the Electoral Board the ability to perform more community outreach without the expense of trucking 200-lb old machines. The machines can easily be used for high school elections, political party canvasses or demonstrations for community groups. With smaller machines, it would also be easier to relocate a polling place in an emergency situation –for instance - if the fire at Dogwood Elementary School or the roof-collapse at Floris Elementary School had occurred the day before an election.

### **How much will the touch screen machines cost in comparison to the old machines?**

Much less. The good news is that the price of technology is going down. In 1987 when the Shouptronic-1242 machines were first purchased by the county, each machine cost \$4,550; today the same machines are sold for \$4,995 each. The new touch screen machines will cost less than \$3,000 each.

### **Will there be federal money available to purchase the machines?**

Yes – but we’re not sure how much. The HAVA legislation provides money for the localities to purchase one machine that is accessible for blind or visually impaired voters for each polling place. We expect that amount to be about \$3,000 per precinct, which means over \$650,000 for Fairfax County.

### **Can the old machines be sold or traded-in to recover some of the costs?**

Yes. The County has received and accepted a bid of \$152,000 for the sale of the old machines.

### **Will the touch screen machines save the taxpayers money?**

Absolutely! The touch screens have fewer parts that need to be repaired and serviced, and most of these replacement parts are off-the-shelf items, as opposed to specialty parts that can only be obtained from the vendor. For instance, the printer in the Shouptronic-1242 machine, which costs \$950, is only manufactured and designed for that machine. The printers in the touch screen machines are commonly used in many types of cash registers and similar devices, and only cost about \$130 each.

The small size of the touch screen machine reduces the amount of warehouse space required for storage and reduces the cost for transportation to and from polling places. Many “consumable” items, such as memory cartridge fuses, lead-acid batteries, ballot paper and plastic seals will be completely eliminated since they are not needed by the new machines. Maintaining support equipment, such as the ballot plotter, the memory cartridge programmer and cartridge eraser will also be totally unnecessary.

Another huge saving will be hundreds of hours in labor costs. The touch screen machines utilize a wireless LAN which enables the technicians to program 1,000+ machines simultaneously. There will no longer be the need to produce individual ballot faces, a process which took over 150 hours for the 2002 general election. Eliminating erasing memory cartridges and replacing

the fuses will save approximately 45 labor hours for each election. Touch screen machines will save an estimated 600 hours in annual maintenance and save an estimated 400 hours in set-up time for each general election.

The touch screen machines will also replace optical scanners and eliminate the need for paper ballots for in-person absentee voting, since each touch screen machine can be programmed to hold all ballot combinations. This will save quite a lot of money for paper and printing and reduce waste, especially for the 2003 general election when the County will have 67 different ballot styles. These machines will also enable the election officers in the Central Absentee Precinct (CAP) to get the results faster, since only mail-in ballots will have to be processed and scanned.

### **Won't the touch screen machine be difficult to use, especially for older voters?**

No. Touch screen machines are very intuitive. Most people already use many types of touch screen or touch pad devices in their everyday lives such as ATM machines, Microwave ovens, department store wedding registries, information kiosks, restaurant menus and airport self check-ins. The concept of making a selection and advancing to the next screen is no longer a new idea, but one that is now used universally in many different formats and applications.

Older voters who were surveyed in the test precincts last November were very enthusiastic about the new machines and most had no problems learning to use the touch screen. The few voters who had difficulty were instructed by election officers and indicated that it would be easier "next time." When the touch screen machines are implemented, the Electoral Board will conduct an extensive voter education program and conduct machine demonstrations all over the county.

### **How did the County choose the touch screen machines?**

All voting equipment certified for use in the Commonwealth of Virginia undergoes an extensive examination by independent testing authorities (ITA's) on both the federal and state level. The Federal Election Commission (FEC) establishes voting system standards and the National Association of State Election Directors (NASD) provides the framework for vendors to receive a NASD qualification number. All electronic voting equipment must pass both hardware and software examinations by approved ITA's to become NASD qualified.

After a voting system becomes NASD qualified, the Virginia State Board of Elections conducts its own certification, employing another ITA to ensure that the voting equipment will meet Virginia laws and standards. As part of the Virginia certification process, voting machines must be tested in an actual election. After machines have received state certification, the localities may then begin their own selection process.

For the past three years Fairfax County Electoral Board has examined a number of different types of voting systems and has participated in the state certification process. Criteria were developed to find a certified system that was best able to meet the needs of the County. Last July, several vendors were invited to demonstrate their systems. The Electoral Board invited representatives from the County's Department of Information Technology, the League of Women Voters, the Council on Disabilities, the Federation of Citizens' Associations, the

NAACP, the political parties and other groups, as well as, experienced election officers and technicians to observe the vendor demonstrations and ask questions.

After receiving feedback from these demonstrations, the Electoral Board sought and received the approval of the Board of Supervisors and the State Board of Elections to test two of the vendors in the November 2002 elections. Voters and poll workers in the test precincts were surveyed on Election Day. Staff and technicians also evaluated the pre-election set-up and testing of the equipment and Election Day performance. Based on the survey and test results, the Electoral Board is recommending the Advanced Voting Solutions' WINvote™ to the Board of Supervisors for purchase in Fairfax County.

**Since this is new technology, what assurance do we have that the touch screen machines can't be tampered with or programmed incorrectly?**

Voters can be assured that FEC, NASED and Virginia certification process considers, above all else, the accuracy and integrity of the qualified voting systems. Security, redundancies and back-up systems are paramount to the design of any good system and are, for obvious reasons, proprietary and protected by the vendors. Any upgrade or redesign of the software must go back through the certification process before being implemented. In addition, qualified electronic systems produce a sequential audit trail of all events and retain a [randomized] image of each ballot cast on each machine.

Once a system is certified and delivered to a locality, protections are put into place, so that even the vendor's programmers are unable to alter the software. In Fairfax County, the Electoral Board establishes internal policies and procedures to further protect the integrity of the process. For instance, the ballot software is installed on a stand-alone computer, so that it can't be "hacked" into through the county network or internet. Random number security codes and passwords are changed for every election.

After the ballot is programmed, proofread and approved by the State Board of Elections, teams of technicians and election officers (Rovers), representing both political parties, test vote and seal every machine. Finally on Election Day, the election officers [poll workers] appointed to represent the two political parties in each precinct, verify that the machine seals haven't been altered before the machines are opened. The election officers verify voters' eligibility and control access to the voting machines during the day. Candidates and political parties are also permitted to have pollwatchers who act as observers or witnesses in each precinct.

**What about security of the wireless system and modem transmission of election returns?**

The wireless LAN complies with IEEE 802.11b standards for wireless systems and utilizes a 128-bit encryption Wired Equivalent Privacy (WEP) protocol which was thoroughly tested by the ITA's during the certification process. The wireless LAN is used to simplify the process of opening the polls on election morning and closing the machines and accumulating the results after the poll close. It is not used while ballots are being cast by voters. If the wireless system fails to work the machines can be opened and closed individually and results accumulated using the removable back-up USB media. Modem results transmissions are also 128-bit encrypted and utilize an electronic authentication signature. The unofficial returns from every polling place and

every machine are always reviewed during the canvass of votes the day following the election, regardless of the method used for collecting or conveying the results